

**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ALABAMA
NORTHEASTERN DIVISION**

AVOCENT HUNTSVILLE CORP.,)	
)	
Plaintiff,)	
)	
vs.)	Civil Action No. CV-03-S-2875-NE
)	
CLEARCUBE TECHNOLOGY,)	
INC.,)	
)	
Defendant.)	

MEMORANDUM OPINION

Plaintiff, Avocent Huntsville Corporation (“Avocent”), owns two patents directed to the problems of transmitting computer-generated, analog color video signals over extended distances: *i.e.*, U.S. Patent No. 6,150,997 (“the ‘997 patent”), and U.S. Patent No. 6,184,919 (“the ‘919 patent”). Avocent contends that accused products of defendant, ClearCube Technology, Inc. (“ClearCube”), infringe claim 1 of the ‘997 patent, and claims 1, 6, and 16–18 of the ‘919 patent.¹ *See* 35 U.S.C. § 271. ClearCube’s amended answer asserts affirmative defenses and counterclaims for invalidity under 35 U.S.C. §§ 102, 103, and 112, and for patent unenforceability under the doctrine of inequitable conduct before the Patent and Trademark Office.²

¹ Doc. no. 1 (complaint); *see also* doc. no. 125 (Avocent Huntsville’s Summary and Background of the Technology Embodied in the Claims of the Patents-in-Suit), at 1.

² *See* doc. no. 61 (ClearCube’s First Amended Answer), ¶¶ 21, 23, 48-55 (invalidity) and 26-42, 56-77 (inequitable conduct).

Numerous motions are pending, but not all are addressed in this opinion. A list of those motions raising issues discussed herein is set out below, followed immediately by an outline of the ensuing discussion.

- A. Document Number (“doc. no.”) 136 — ClearCube’s motion for summary judgment declaring that certain Avocent patents and/or applications constitute prior art to the patents-in-suit;³
- B. doc. no. 142 — Avocent’s motion for a partial summary judgment declaring that the patents-in- suit “are not invalid”;⁴
- C. doc. no. 154 — Avocent’s motion for separate trial of ClearCube’s inequitable conduct allegations;
- D. doc. no. 157 — Avocent’s motion for a partial summary judgment declaring that it engaged in “no inequitable conduct”;
- E. doc. no. 160 — Avocent’s motion for a partial summary judgment declaring

³ ClearCube’s motion asks the court to declare that: “the filing date of the ‘442 application is January 5, 1994; that the ‘442 application lacks copendency with the ‘404 patent/‘689 application; and accordingly, that no Avocent application or patent can claim priority to the ‘404 patent/‘689 application to receive an earlier effective filing date; that the effective filing date accorded to claim 1, 6, and 16-18 of the ‘919 patent is June 3, 1996; that the effective filing date accorded to claim 1 of the ‘997 patent is January 5, 1994; that the ‘404 patent constitutes prior art under 35 U.S.C. § 102(b) as against the ‘919 patent; that the common subject matter between the ‘997 patent and the ‘442 application constitutes prior art under 35 U.S.C. § 102(e) as against the ‘919 patent; and that the ‘404 patent constitutes prior art under 35 U.S.C. §§ 102(a) and 102(e) as against the ‘997 patent.” Doc. no. 136, at 29-30.

⁴ Avocent’s motion has five sub-parts: “More specifically, Avocent seeks summary judgment [declaring] that: (1) ClearCube has failed to provide any evidence of invalidity under 35 U.S.C. §§ 102 and 112; (2) ClearCube’s affirmative defenses under 35 U.S.C. § 103 are defective as a matter of law because ClearCube has failed to identify evidence of a proper motivation, teaching or suggestion for combining the prior art references; (3) the ‘997 patent is not prior art to the asserted claims of the ‘919 patent; (4) the ‘442 application was filed on January 4, 1995 in accordance with 35 U.S.C. § 21 and 37 C.F.R. § 1.10; and (5) Robert Asprey is the sole inventor of the ‘997 patent claims and the asserted claims of the ‘919 patent (*i.e.*, claims 1, 6, and 16-18).” Doc. no. 142 at 1.

that ClearCube's products satisfy the "amplifier" limitation of claims 1 and 6 of the '919 patent, and, claim 1 of the '997 patent;

- F.** doc. no. 166 — ClearCube's motion for partial summary judgment of non-infringement of claims 1 and 6 of the '919 patent;
- G.** doc. no. 168 — Clear Cube's motion for partial summary judgment of non-infringement;
- H.** doc. no. 171 — ClearCube's motion for a partial summary judgment declaring that Avocent's '919 and '997 patents are not enforceable; and,
- I.** doc. no. 174 — Avocent's motion to strike the supplemental expert report of Gregg L. Vaughn, Ph.D.

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PART ONE

Standards of Review

The Federal Rules of Civil Procedure provide that summary judgment is appropriate “if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(c). The party moving for summary judgment bears the initial burden of showing the court, by reference to materials on file, that there are no genuine issues of material fact to be decided at trial. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986).

When the moving party has discharged its burden, the non-moving party cannot rest upon the pleadings. Instead, Rule 56(e) requires the party opposing summary judgment to go beyond the pleadings, and to demonstrate by affidavit or other appropriate means that there is a genuine issue of material fact for trial. *See also Celotex*, 477 U.S. at 324. A “genuine” dispute about a material fact exists if the “evidence is such that a reasonable jury could return a verdict for the nonmoving party.” *Jeffery v. Sarasota White Sox, Inc.*, 64 F.3d 590, 594 (11th Cir. 1995) (*per curiam*) (quoting *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986)). Conversely, “summary judgment may be granted when no ‘reasonable jury could

return a verdict for the nonmoving party.’” *Pro-Mold & Tool Co., Inc. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1572 (Fed. Cir. 1996) (quoting *Anderson*, 477 U.S. at 248).

In determining whether there is a genuine issue of material fact, the evidence must be viewed in the light most favorable to the party opposing the motion for summary judgment, and all justifiable inferences are to be drawn in that party’s favor. *See Anderson*, 477 U.S. at 255; *see also, e.g., IPXL Holdings, LLC v. Amazon.com, Inc.*, 430 F.3d 1377, 1380 (Fed. Cir. 2005); *Elekta Instruments v. O.U.R. Scientific International, Inc.*, 214 F.3d 1302, 1306 (Fed. Cir. 2000); *Chiuminatta Concrete Concepts, Inc. v. Cardinal Industries, Inc.*, 145 F.3d 1303, 1307 (Fed. Cir. 1998); *Pro-Mold & Tool*, 75 F.3d at 1572.

When a district court is, as here, presented cross motions for summary judgment on the same issues, “[t]he court must rule on each party’s motion on an individual and separate basis, determining, for each side, whether a judgment may be entered in accordance with the Rule 56 standard.” 10A Wright, Miller & Kane, *Federal Practice and Procedure: Civil 3d* § 2720, at 335-36 (1998) (footnote omitted).

“The fact that both the parties have moved for summary judgment does not mean that the court must grant summary judgment to one party or the other. Cross-motions are no more than a claim by each party that it

alone is entitled to summary judgment, and the court must evaluate each motion on its own merits, taking care in each instance to view the evidence in favor of the nonmoving party.”

Cross Medical Products, Inc. v. Medtronic Sofamor Danek, Inc., 424 F.3d 1293, 1302 (Fed. Cir. 2005) (quoting *Bubble Room, Inc. v. United States*, 159 F.3d 553, 561 (Fed. Cir. 1998)) (internal alteration omitted).

PART TWO

Background of the Patents-in-Suit

Personal computers usually are located near video monitors. Consequently, computer-generated video signals normally are transmitted over cables that are no more than ten to twenty feet in length.⁵ Avocent was known as Cybex Computer Products Corporation prior to 2000,⁶ and Cybex was in the business of developing products that allowed customers to locate personal computers at extended distances from a user's monitor, keyboard, and mouse.⁷ In a business setting, this resulted in less clutter at each user's workstation, as well as increased security. As Avocent explained:

If the video, keyboard and mouse signals can be reliably transmitted

⁵ See doc. no. 125 (Avocent Huntsville's Summary and Background of the Technology Embodied in the Claims of the Patents-in-Suit), at 5 n.2. See also *Microsoft Computer Dictionary* 552 (5th ed. 2002) (defining *video signal* as a noun describing the "signal sent from a video adapter or other video source to a raster display. The signal can include horizontal and vertical synchronization signals, as well as image information."). Compare *id.* 117 (defining *composite video display* as a "display that receives all encoded video information (including color, horizontal synchronization, and vertical synchronization) in one signal," and observing that a "composite video signal under NTSC (National Television System Committee) standards is generally required for television sets") with *id.* 453-54 (defining *RGB monitor* as meaning a "color monitor that receives its signals for red, green, and blue levels *over separate lines*") (emphasis supplied); and doc. no. 133 (*Markman* claim construction memorandum opinion) at 29-41 (concluding that the disputed claim term "discrete," as it is used in Avocent's '997 and '919 patents, means — as the foregoing definitions indicate — that the computer monitor receives its signals for red, green, and blue color levels *over separate lines* of twisted-pair wiring).

⁶ See doc. no. 125 (Avocent Huntsville's Summary and Background of the Technology Embodied in the Claims of the Patents-in-Suit), at 5.

⁷ See *id.* at 1-2.

over extended distances, the computers themselves can be located in a backroom where only an authorized computer administrator can physically access them. This prevents unauthorized software or files from being installed on the computers or copied from the computers.⁸

There is a problem inherent in such configurations, however: computer-generated video signals degrade when transmitted over extended distances, resulting in undesirable debasement of clarity in the images depicted on the monitor's screen.⁹

Cybex's early innovations directed to this problem were tailored to the transmission of *digital*,¹⁰ as opposed to *analog*,¹¹ video signals. That was due to the fact that, during the 1980s, the leading computer signal-standard was the Color/Graphics Adapter ("CGA") developed by IBM.¹² CGA was a *digital* standard:

⁸ *Id.* at 2.

⁹ See Transcript of *Markman* Hearing, Vol. I (Feb. 22, 2006 testimony), at 63-66.

¹⁰ See *Microsoft Computer Dictionary* 157-58 (defining (i) *digital* as an adjective referring to "something based on digits (numbers)," and usually associated with the processing of "information coded as different combinations of the binary digits (bits) 0 and 1"; (ii) *digital data transmission* as a noun referring to the "transfer of information encoded as a series of bits rather than as a fluctuating (analog) signal in a communications channel"; and (iii) *digital display* as a noun that describes a "video display capable of rendering only a fixed number of colors or gray shades. Examples of digital displays are IBM's Monochrome Display, Color/Graphics Display, and Enhanced Color Display.").

¹¹ *Id.* at 26 (defining (i) *analog* as an adjective that pertains to "a device or signal that is continuously varying in strength or quantity, such as voltage or audio, rather than based on discrete units, such as the binary digits 1 and 0"; (ii) *analog data* as a noun referring to "[d]ata that is represented by continuous variations in some physical property, such as voltage, frequency, or pressure," as opposed to digital data; and (iii) *analog display* as a noun that refers to a "video display capable of depicting a continuous range of colors or shades rather than discrete values").

¹² See doc. no. 125 (Avocent Huntsville's Summary and Background of the Technology Embodied in the Claims of the Patents-in-Suit), at 5. See also *Microsoft Computer Dictionary* 93 (observing that CGA was "[a] video adapter board introduced by IBM in 1981. The CGA is capable of several character and graphics modes, including character modes of 40 or 80 horizontal characters

that is, each “bit” of information was expressed as either a “1” or “0” value.¹³ IBM later introduced another signal standard, called the Enhanced Graphics Adapter (“EGA”).¹⁴ EGA also was a *digital* standard. Accordingly, Cybex’s original technology was designed to compensate for the degradation of *digital* signals transmitted by computers over extended distances: that is,

the digital information could be reliably recovered by comparing the received signal to an intermediate reference point. A “1” would be registered if the received signal was above the reference point; a “0” would be registered if the signal was below that reference point, regardless of line-induced degradation.¹⁵

In the early 1990s, however, IBM introduced an *analog* video standard, called the Video Graphics Adapter (“VGA”),¹⁶ which presented a new set of challenges. Analog signals can have an infinite number of amplitudes between a minimum and maximum value,¹⁷ and the specific amplitude transmitted by the computer *is* the

(columns) by 25 vertical lines with 16 colors, and graphics modes of 640 horizontal pixels by 200 vertical pixels with 2 colors, or 320 horizontal pixels by 200 vertical pixels with 4 colors”).

¹³ See *supra* note 10.

¹⁴ See *Microsoft Computer Dictionary* at 186 (observing that EGA is “[a]n IBM video standard introduced in 1984. It emulates the Color/Graphics Adapter (CGA) and the Monochrome Display Adapter (MDA) and provides medium-resolution text and graphics. It was superseded by Video Graphics Display (VGA)”).

¹⁵ Doc. no. 125 (Avocent Huntsville’s Summary and Background of the Technology Embodied in the Claims of the Patents-in-Suit), at 6.

¹⁶ See *Microsoft Computer Dictionary* 551 (defining VGA as a “video adapter that duplicates all the video modes of the EGA (Enhanced Graphics Adapter) and adds several more”).

¹⁷ See *id.* at 26 (defining *amplitude* as a “measure of the strength of a signal . . . determined by the distance from the baseline to the peak of the waveform”).

information conveyed by the signal. Thus, *any* degradation in the amplitude of an analog signal may cause an uncorrectable loss of information. As the computer industry began replacing digital video systems with the new, analog VGA systems, Cybex commenced its work on the problems associated with the transmission of analog VGA video over extended distances. Cybex's innovations in this area ultimately led to the inventions disclosed in the patents-in-suit.¹⁸

A. *The '689 Application and '404 Patent*

An early achievement for Cybex was the development of an amplifier device that could boost a weak analog video signal to a usable amplitude.¹⁹ Cybex filed U.S. Patent Application Serial No. 07/912,689 ("the '689 application") on July 13, 1992, and that application issued as U.S. Patent No. 5,276,404 ("the '404 patent") on January 4, 1994.²⁰ Claim 1 of the '404 patent recites a "non-inverting, constant current voltage amplifier,"²¹ and the remaining claims (2–6) are dependent upon claim 1.

¹⁸ Doc. no. 125 (Avocent Huntsville's Summary and Background of the Technology Embodied in the Claims of the Patents-in-Suit), at 7-8.

¹⁹ See doc. no. 150 (ClearCube's brief in opposition), Ex. F (U.S. Patent No. 5,276,404: "the '404 patent"), col. 1, lines 37-41 (stating the object of the invention) and cols. 6-8 (claims 1 through 6). This was not the first achievement in the field of analog color video signal transmission by Cybex (now Avocent). See, e.g., doc. no. 136 (ClearCube's brief), Ex. C (showing Avocent's earlier inventions in the field). Even so, these earlier inventions are not relevant to the present analysis.

²⁰ See doc. no. 150 (ClearCube's brief in opposition), Ex. F ('404 patent).

²¹ See *id.*, col. 6, line 43.

B. *The '442 Application*

Cybex mailed U.S. Patent Application Serial No. 08/177,442 (“the ‘442 application”) to the Patent and Trademark Office (“PTO”) in early January 1994. The PTO assigned the application a filing date of January 5, 1994 — an action that is disputed by Avocent. Even so, discussion of Avocent’s contention that the PTO should have assigned the ‘442 application a filing date of January 4, 1994 (*i.e.*, the same day upon which the ‘404 patent issued) will be addressed *infra*, in Part Eleven, Sections A(3), C(3), and E of this opinion, concerning ClearCube’s assertion that Avocent engaged in inequitable conduct before the Patent and Trademark Office.

The ‘442 application described various systems for the transmission of computer-generated analog color video signals, and purported to be a “continuation-in-part”²² of the inventions disclosed in the ‘689 application that issued as the ‘404 patent.²³ Robert R. Asprey was the sole inventor of the subject matter claimed in the application.²⁴ The ‘442 application never issued as a patent.

²² A “continuation-in-part application” is one of three types of patent applications that are entitled to enjoy the filing date of an earlier, “parent” patent application. Such an application has some subject matter in common with the earlier, “parent application,” but it also may have some new subject matter. This subject is discussed more fully *infra*, in Part Nine, Section B(2) of this opinion, and notes 176 and 178.

²³ See doc. no. 136 (ClearCube’s brief), Ex. D (‘442 application).

²⁴ See doc. no. 143 (Avocent’s Combined Memorandum in support of its motion for partial summary judgment that the patents-in-suit are not invalid), Ex. 7 at 4-5 (Declaration of Robert Asprey filed in the PTO, and averring that he is the “original, first, and sole inventor . . . of the subject matter which is claimed and for which a patent is sought on the invention” described in the ‘442 application).

C. *The Patents-in-Suit*

In 1996, during the pendency of the ‘442 application that never matured into an issued patent, Cybex filed two additional patent applications, both of which ultimately issued as the patents-in-suit.

1. *The ‘076 application and ‘919 patent*

Cybex filed U.S. Patent Application Serial No. 08/660,076 (“the ‘076 application”) on June 3, 1996, reciting various systems for the transmission of analog color video signals over extended distances.²⁵ The ‘076 application purported to be a “continuation-in-part” of the ‘442 application,²⁶ and it issued as the ‘919 patent on February 6, 2001.²⁷ Robert R. Asprey, Philip M. Kirshtein, and Thomas V. Lusk are the three inventors named on the ‘919 patent.

2. *The ‘697 application and ‘997 patent*

Cybex also filed U.S. Patent Application Serial No. 08/741,697 (“the ‘697 application”) on October 31, 1996, reciting systems for the transmission of analog color video signals.²⁸ The ‘697 application purported to be a continuation-in-part of

²⁵ See doc. no. 136 (ClearCube’s brief), Ex. B (‘919 patent).

²⁶ Doc. no. 171 (ClearCube’s motion for summary judgment), Ex. W (‘076 application), at “Cross Reference of Related Applications.” As stated in note 22 *supra*, the subject of a “continuation-in-part application” is discussed more fully *infra*, in Part Nine, Section B(2) of this opinion, and notes 176 and 178.

²⁷ See doc. no. 136 (ClearCube’s brief), Ex. B (‘919 patent).

²⁸ See *id.*, Ex. A (‘997 patent).

the '442 application,²⁹ and it issued as the '997 patent on November 21, 2000.³⁰ Robert R. Asprey is the sole inventor named on the '997 patent.

It should be noted that, even though the '697 application was filed last, on October 31, 1996 — almost four months *after* the filing date of the '076 application that matured into the '919 patent — it issued first, as the '997 patent, on November 21, 2000. Conversely, the '076 application, which was filed first (on June 3, 1996), issued last, as the '919 patent, on February 6, 2001.

²⁹ See doc. no. 171 (ClearCube's motion for summary judgment), Ex. G ('697 application), at "Cross Reference of Related Applications."

³⁰ See doc. no. 136 (ClearCube's brief), Ex. A ('997 patent).

PART THREE

The Disputed Claims

Avocent contends that ClearCube's accused products infringe claim 1 of the '997 patent, and claims 1, 6, and 16–18 of the '919 patent.³¹ Claim 1 of the '997 patent, and claims 1, 16, and 18 of the '919 patent, are independent claims. Claim 6 of the '919 patent is dependent on claim 1, and claim 17 of the same patent is dependent on claim 16. *Claim 1 of the '997 Patent* recites:

1. A system for transmission of analog color video signals between a source of said signals and a video monitor, being at spaced locations, comprising:^[32]

a plurality of computers, each providing, as a set, said color video signals;

a switch receiving said sets of said color video signals, each with respect to a common reference, from said computers and providing a selected said set of said color video signals as an output;

a signal transmitter at a first location responsive to said output of a set of said color video signals, said transmitter, including^[33] an

³¹ Doc. no. 1 (complaint); *see also* doc. no. 125 (Avocent Huntsville's Summary and Background of the Technology Embodied in the Claims of the Patents-in-Suit), at 1.

³² The word "comprising" is a term of art in Patent law that means the claim includes all of the elements that follow in the body of the claim statement, but does not exclude additional, unrecited elements. *See, e.g., Georgia-Pacific Corp. v. United States Gypsum Co.*, 195 F.3d 1322, 1327-28 (Fed. Cir. 1999). Claims that use "comprising" are sometimes referred to as "open claims." *See, e.g., Vivid Techs. v. American Science & Eng'g*, 200 F.3d 795, 811 (Fed. Cir. 1999).

³³ The word "including" is another term that, like "comprising," signals the claim statement encompasses all of the elements that follow, but does not exclude additional, un-recited elements.

amplifier for each said color video signal of one of said sets for providing a color video signal output and wherein^[34] at least a high frequency portion of each said color video signal has been amplified as a direct function of frequency and providing both an inverting and non-inverting signal, available as an output;

a plurality of video transmission circuits, each said circuit having first and second ends, respectively, one circuit for each of said color video signals of one of said sets and each said circuit having an input responsive to an output of said transmitter at said first end, and each said circuit having a responsive signal output at said second end;

a signal receiver at a second location responsive to each of said transmitted signal outputs and color video signal at said second end, including an amplifier for each said color video signal for providing a discrete color video signal with respect to a common reference; and

signal means responsive to said receiver for providing each said color signal, each with respect to a common reference, to an analog color video monitor.³⁵

Claim 1 of the '919 Patent recites:

1. An extended-in-length computer video communications link for transmitting computer video signals comprising:

a source of computer video signals including red, green, and blue video signals,

See Robert C. Faber, LANDIS ON MECHANICS OF PATENT DRAFTING § 7 (4th ed. 1999).

³⁴ The word “wherein” is another term of Patent art that customarily signals the claim includes all the elements that follow, but does not necessarily exclude additional, unrecited elements. *See id.*

³⁵ ‘997 patent, col. 13 & line 14 through col. 14 & line 15. A copy of the ‘997 patent is located, among many other places in the record, at doc. no. 79 (Avocent’s Combined Memorandum), Ex. A(2).

a video transmitter comprising a plurality of amplifiers, one of each said amplifiers for each of said red, green, and blue video signals, each said amplifier comprising:

a signal input for receiving a one of said red, green and blue video signals,

frequency sensitive compensating circuitry responsive to a said video signal so that said amplifier provides a first video signal that increases in amplitude with increasing frequency at a first output and a second video signal that is an inverse of said first video signal at a second output,

a twisted pair of conductors for each said amplifier, with first and second conductors of said twisted pair coupled at one end to respective said first and second outputs of said amplifier,

an adapter for each of said twisted pair of conductors, each said adapter coupled to an opposite end of a respective one of said twisted pair of conductors, each said adapter receiving said first video signal and said second video signal and providing a respective said video signal as a single ended output, and further configured to provide a ground reference potential for said transmitter at said adapter, whereby need for a reference ground conductor between said transmitter and said adapter is eliminated.³⁶

Claim 6 of the '919 Patent, which is dependent to claim 1 above, recites “[a] video communications link as set forth in claim 1 wherein said source of video signals comprises a termination point of another video communications link.”³⁷

Claim 16 of the '919 Patent recites:

³⁶ '919 patent, col. 18, lines 12-41. The '919 patent is located, among many other places in the record, at doc. no. 79 (Avocent's Combined Memorandum), Ex. A(1).

³⁷ *Id.*, col. 19, lines 5-7.

16. A computer video signal communications system for selectively coupling sets of R, G, B computer color video signals from one of a plurality of computers to a separately located color monitor, said system comprising:

a transmitter including:

switching means for selectively providing a said set of said color video signals from a selected said computer, and

a first signal format converter responsive to each said color signal of a said set of color signals from said switching means for converting a signal format of each said color signal from single ended format to a balanced format;

a plurality of sets of twisted pair conductors, each set of said conductors having a first end and second end, with a said first end of each of said sets of conductors receiving a discrete color video signal from said transmitter;

a receiver coupled to said second ends of said sets of said twisted pair conductors and including:

a plurality of second signal format converters for converting a said balanced format of each said discrete color video signal from each said set of conductors from balanced to unbalanced format; and

signal means responsive to unbalanced format signals from said receiver for coupling color video signals to a color video monitor.³⁸

Claim 17 of the '919 Patent, which is dependent to claim 16 above, recites “[a] system as set forth in claim **16** wherein said receiver includes frequency

³⁸ *Id.*, col. 20 & line 48 through col. 21 & line 7.

compensation means for boosting a frequency response of at least one said color video signal directly as a function of frequency.”³⁹

Claim 18 of the '919 Patent recites:

18. A computer video signal communications system for selectively coupling a set of R, G, and B computer color video signals from one of a plurality of computers to a separately located color monitor, said system comprising:

a transmitter including:

switching means for selectively providing said set of R, G, and B computer color video signals from a selected said computer, and

a first signal format converter responsive to each said R, G and B color video signal for converting a signal format of each said R, G and B color video signal from single ended format to a balanced format;

a set of twisted pair conductors for each said balanced format R, G, and B color video signals, each said set of twisted pair conductors having a first end and a second end, with a said first end of each of said sets of twisted pair conductors receiving a discrete one of said balanced format R, G, and B color video signals from said transmitter;

a receiver coupled to said second ends of said sets of twisted pair conductors and including:

frequency compensation means for boosting a frequency response of each said R, G and B color video signal directly as a function of frequency;

³⁹ *Id.*, col. 21, lines 8-11.

a plurality of second signal format converters for converting said balanced format of each said R, G and B color video signal from each said set of twisted pair conductors from balanced to unbalanced format; and

signal means responsive to said [sic] unbalanced format signals from said receiver for coupling said R, G and B color video signals to a color video monitor.⁴⁰

⁴⁰ *Id.*, col. 21, lines 12-44.

PART FOUR

Claim Construction Decisions

A claim construction hearing was held on February 22 and 23, 2006. *See Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996) (holding that the first issue in any patent infringement case is that of “claim construction”: the interpretation of words used in a patent’s claim, “the portion of the patent document that defines the scope of the patentee’s rights”); *see also, e.g., Rockwell International Corporation v. United States*, 147 F.3d 1358, 1362 (Fed. Cir. 1998) (“The first step in any invalidity or infringement analysis is claim construction.”) (citations omitted). The memorandum opinion and order entered on March 15, 2006, set forth this court’s interpretation of the following, disputed, claim terms.⁴¹

“Twisted pair” wiring, which is used in the ‘919 patented invention to conduct analog video signals, may be either “shielded” or “unshielded.”

The term “amplifier,” as it is claimed in both the ‘997 and ‘919 patents, was defined as “a circuit (or a device when connected in a circuit) that draws power from a source other than the input signal and provides an output signal that reproduces the essential features of the input signal.”

The term “discrete,” as it is used in the claims of both patents, simply means

⁴¹ *See* doc. nos. 133 (memorandum opinion) and 134 (order).

that a color video signal (*e.g.*, red) is separate or distinct from the other two color video signals (*e.g.*, green and blue).

Finally, the phrase “for said transmitter,” as recited in claim 1 of the ‘919 patent, was construed as meaning “from the signals received from the transmitter.”

PART FIVE

Avocent's Motion to Strike the Supplemental Report of ClearCube's Expert Witness, Dr. Gregg L. Vaughn

Avocent's motion to strike the April 24, 2006 supplemental report of ClearCube's expert witness, Dr. Gregg Vaughn,⁴² will be granted in part and denied in part.

A. *Procedural Background*

Discovery commenced on March 8, 2004.⁴³ Pursuant to a scheduling order entered on June 25, 2004,⁴⁴ as amended on September 15, 2004,⁴⁵ the parties were required to disclose, no later than August 2, 2004, the identity of all specially retained or employed expert witnesses, together with a complete report under Fed. R. Civ. P. 26(a)(2)(B). Rebuttal reports were due September 20, 2004. The party bearing the burden of proof on a claim or counterclaim was required to initiate this sequence of disclosures.⁴⁶

Each party disclosed an expert report on August 2, 2004. Avocent's expert,

⁴² See doc. no. 174 (Avocent's combined motion to strike and supporting memorandum).

⁴³ See doc. no. 14 (Initial Order Governing All Further Proceedings), at 5 ("The parties are authorized to commence discovery pursuant to the terms of Federal Rule of Civil Procedure 26 and Local Rule LR26.1 immediately after the required report has been filed"); doc. no. 24 (Report of Parties' Planning Meeting) (filed March 8, 2004).

⁴⁴ Doc. no. 43.

⁴⁵ Doc. no. 66.

⁴⁶ Doc. no. 43.

Joseph C. McAlexander, explained how ClearCube's accused products infringed the patents-in-suit.⁴⁷ ClearCube's expert, Dr. Vaughn, opined that the patents-in-suit were not valid.⁴⁸ The parties' rebuttal reports followed, with Dr. Vaughn rebutting McAlexander's findings of infringement, while two individuals — McAlexander and Robert Asprey — rebutted Vaughn's opinions concerning the validity of the patents-in-suit.⁴⁹ On the latter issue, McAlexander and Asprey both challenged Dr. Vaughn's validity analysis on the basis that he had failed to articulate a motivation, suggestion, or teaching to combine selected prior art references in a way that would lead to the claimed inventions.⁵⁰

The court's scheduling orders did not provide for the submission of responsive expert reports after the September 20, 2004 deadline, but neither did it expressly preclude the submission of supplemental reports. Consequently, Avocent served a

⁴⁷ See doc. no. 82 (Motion to Strike Supplemental Expert Report and Related Testimony), Ex. A (Expert Report of Joseph McAlexander, III, Regarding Infringement of U.S. Patent Numbers 9,184,919 and 6,150,997).

⁴⁸ Doc. no. 174 (Avocent's combined motion and memorandum), Ex. 4.

⁴⁹ See doc. no. 187 (ClearCube's brief in opposition), Ex. I (Expert Report of Robert R. Asprey), and doc. no. 246 (Avocent's response to court's June 23, 2006 order), Attachment A (Rebuttal Expert Report of Joseph C. McAlexander, III, Regarding Validity of U.S. Patent Numbers 6,184,919 and 6,150,997).

⁵⁰ See, e.g., *id.*, McAlexander's invalidity report, at 27 ("I find no motivation, suggestion, or teaching, for example, in the '997 patent to consider the 94/30012 publication."); e.g., doc. no. 187 (ClearCube's brief in opposition), Ex. I (Asprey's report), at 3 ("If McDermott has its solution to a problem, and if the '997 patent has a different solution to the same problem, why would anyone skilled in the art be motivated to modify one reference to include part of the solutions described by the other reference? The answer is: they would not be motivated to make such a combination of or modification to the references.").

supplemental report addressing the issue of patent infringement on November 26, 2004.⁵¹

After a period of delay in this litigation,⁵² the claim construction hearing was conducted on February 22 and 23, 2006. On the first day of the hearing, Avocent's counsel (Donald Jackson) informed the court that Robert Asprey had died the previous month.⁵³ Jackson noted that Avocent had served rebuttal reports on the issue of patent validity authored by McAlexander *and* Asprey. Even so, he sought permission to supplement McAlexander's report, but only to the extent necessary to incorporate issues addressed by Asprey.⁵⁴ Ken Kuffner, a witness retained by ClearCube to provide an expert opinion on the issue of inequitable conduct, also had died prior to the hearing. ClearCube thus sought permission to secure additional expert testimony on the issue Kuffner had been prepared to address at trial.⁵⁵ Near the conclusion of the hearing, Avocent's counsel also posed the following question to the court: Would Avocent's expert (McAlexander) be allowed to incorporate the

⁵¹ See doc. no. 82 (Motion to Strike Supplemental Expert Report), Ex. C (Supplemental Expert Report of Joseph C. McAlexander, III, Regarding Infringement of U.S. Patent Numbers 6,184,919 and 6,150,997). ClearCube subsequently moved to strike this supplemental report. The motion was ultimately denied, however, as explained in note 132, *infra*.

⁵² Among other delays, this court continued the parties' claim construction hearing pending the Federal Circuit's decision in *Phillips v. AWH Corporation*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*).

⁵³ See Transcript of *Markman* hearing, Vol. I (February 22, 2006 testimony), at 5.

⁵⁴ See *id.*

⁵⁵ See *id.* at 6-7.

court's construction of disputed claim terms in his patent infringement analysis?⁵⁶

This court deferred an answer to that question.

The court's claim construction opinion, construing the patent terms and phrases described in Part Four *supra*, was entered on March 15, 2006.⁵⁷ To advance the case toward trial, the court ordered the parties to enumerate all pre-trial procedures that needed to be completed. The parties filed a Joint Status Report on March 23, 2006, and they reiterated their agreement on one point: "supplemental" expert reports would be necessary to fill the evidentiary voids resulting from the deaths of Asprey and Kuffner. Avocent also renewed its request for leave to incorporate the court's construction of disputed claim terms in Joseph McAlexander's infringement reports.⁵⁸

This court entered a Revised Scheduling Order on March 31, 2006,⁵⁹ accomplishing two things of relevance to the present discussion. First, the parties were ordered to designate expert witnesses to replace Asprey and Kuffner.⁶⁰ Avocent

⁵⁶ See *id.*, Vol. II (February 23, 2006 testimony), at 201-02.

⁵⁷ See doc. nos. 133 and 134.

⁵⁸ See doc. no. 137.

⁵⁹ Doc. no. 138.

⁶⁰ That portion of the Revised Scheduling Order provided:

1. Reports of "Replacement" Experts:

- A. The parties shall designate expert witnesses to replace Bob Asprey and Ken Kuffner, both now deceased, by April 3, 2006.
- B. Reports prepared by the newly-designated witnesses shall be served

also was granted leave to incorporate the court's construction of claim terms into McAlexander's infringement analysis.⁶¹

McAlexander served his second supplemental report on April 10, 2006,⁶² and supplemented his earlier opinions on patent infringement in three respects: (1) the

on opposing counsel no later than April 10, 2006.

- C. Depositions pertaining to the new reports shall be completed by April 17, 2006.
- D. Reports rebutting the contentions set forth in the new reports shall be served on opposing counsel by April 24, 2006.
- E. Depositions pertaining to the rebuttal reports shall be completed by May 3, 2006.

Id. at 1-2 (footnote omitted).

⁶¹ That portion of the Revised Scheduling Order provided:

2. Avocent's Supplemental Expert Report:

- A. Avocent's supplemental expert report, to the extent such a report is necessary, shall be served on opposing counsel no later than April 10, 2006.
- B. Depositions pertaining to the supplemental expert report shall be completed by April 17, 2006.
- C. ClearCube's rebuttal report shall be served on opposing counsel by April 24, 2006.
- D. Depositions pertaining to the rebuttal report shall be completed by May 3, 2006.

Id. at 2-3 (footnote omitted).

⁶² Doc. no. 174 (Avocent's motion to strike), Ex. 2 (Second Supplemental Expert Report of Joseph C. McAlexander, III, Regarding U.S. Patent Numbers 6,184,919 and 6,150,997).

court's construction of the claim term "amplifier" was consistent with his preexisting understanding of the term and, therefore, his earlier infringement opinions (at least with respect to the "amplifier") were not altered; (2) a review of ClearCube's data sheets showed that the accused products included an "amplifier," even under ClearCube's original construction of the term; and (3) a schematic showed that a receiver located at the far end of ClearCube's transmission system provided a ground reference potential "for said transmitter," as that phrase was construed by the court.⁶³

McAlexander's second supplemental report also addressed ClearCube's assertions of patent invalidity. McAlexander stated that, upon comparing his original report to Asprey's, he found the opinions expressed in each essentially the same,⁶⁴ with one exception: Asprey's report had discussed in greater detail the technical differences between *television* and *computer* video systems. McAlexander thus incorporated, by reference, those portions of Asprey's report addressing those differences.⁶⁵

Vaughn served his rebuttal report on April 24, 2006, addressing in one comprehensive document McAlexander's updated infringement analysis, and the invalidity opinions of Robert Asprey, as adopted by McAlexander. Section II of

⁶³ See *id.* at 5-7.

⁶⁴ See *id.* at 8.

⁶⁵ See *id.*

Vaughn's rebuttal addressed McAlexander's infringement analysis premised on the court's construction of the claim term "amplifier." Section III addressed McAlexander's infringement analysis premised on the court's construction of the phrase "for said transmitter." Section IV addressed the alleged invalidity of the '919 patent, and Section V did the same for the '997 patent. Avocent followed with the subject motion, asking the court to strike Sections II through V of Dr. Vaughn's report.

B. *Section II of Dr. Vaughn's Supplemental Report — the "amplifier" non-infringement opinion*

The first numbered claims of both patents-in-suit require "amplifiers" to assist in the transmission of analog color video signals. This court construed the term "amplifier" as meaning "a circuit (or a device when connected in a circuit) that draws power from a source other than the input signal and provides an output signal that reproduces the essential features of the input signal."⁶⁶ Following claim construction, McAlexander supplemented his earlier opinions on patent infringement to reiterate his position that ClearCube's accused products included the claimed "amplifier."

Not surprisingly, Dr. Vaughn's rebuttal report took the opposite position that ClearCube's products did not include the claimed "amplifier" and, therefore, there

⁶⁶ See doc. nos. 134 (claim construction order) at 2; doc. no. 133 (claim construction memorandum), at 24-28. See also Part Four *supra*.

was no infringement. Dr. Vaughn's opinion, set forth in Section II of his rebuttal report, built upon several analytical steps. He first focused on that aspect of the court's construction of "amplifier" requiring reproduction of "the essential features of the input signal." Dr. Vaughn opined that "the essential features of the input signal" meant "the frequency components of the video signal."⁶⁷ He then asserted that, when a computer and monitor are separated by extended distances, each "frequency component of the video signal" must be transmitted from the computer to the monitor without significant loss of amplitude.⁶⁸ Specifically, Dr. Vaughn opined that a change in signal amplitude even as small as one-half of one percent (measured at the computer and monitor) could alter the intensity of the color displayed on the monitor's screen.⁶⁹ Dr. Vaughn based this opinion upon his analysis of the '919 patent specification, as well as Joseph McAlexander's testimony at the claim construction hearing.⁷⁰

Dr. Vaughn also noted that the patent claims at issue impose limitations on the "amplifier." Claim 1 of the '997 patent, for example, recites an "amplifier . . . for

⁶⁷ Doc. no. 174 (Avocent's motion to strike), Ex. 1 (Vaughn supplemental report) ¶ 5, at 3.

⁶⁸ See *Microsoft Computer Dictionary* 26 (5th ed. 2002) (defining *amplitude* as a "measure of the strength of a signal . . . determined by the distance from the baseline to the peak of the waveform").

⁶⁹ See doc. no. 174 (Avocent's motion to strike), Ex. 1 (Vaughn supplemental report) ¶ 7, at 3-4.

⁷⁰ See *id.*, ¶¶ 6 and 7, at 3-4.

providing a color video signal output and wherein at least a high frequency portion of each said color video signal has been *amplified as a direct function of frequency*,”⁷¹ while claim 1 of the ‘919 patent recites an “amplifier” that “provides a first video signal that *increases in amplitude with increasing frequency* at a first output.”⁷² Dr. Vaughn understood the emphasized claim language as requiring that “each frequency component ha[ve] a higher gain than the previous frequency component.”⁷³

Finally, having laid this groundwork, Dr. Vaughn stated his non-infringement analysis in two sentences:

The circuitry on the transmitting end of a ClearCube system does not have an amplifier because it does not reproduce the essential features of the input signal nor does it provide greater gain for frequency components at successively higher frequencies. So, the circuitry on the transmitting end of a ClearCube system does **not reproduce the essential features** of the input signal.⁷⁴

1. *Avocent’s argument*

As a preliminary matter, the court finds that Avocent’s motion to strike *all* opinions set forth in Section II of Dr. Vaughn’s rebuttal report is over-inclusive. That is because the gravamen of Avocent’s complaint is directed to the second step of Dr.

⁷¹ Doc. no. 187 (ClearCube’s brief in opposition), Ex. E (‘997 patent), col. 13, lines 26-29 (emphasis supplied).

⁷² *Id.*, Ex. D (‘919 patent), col. 18, lines 23-25 (emphasis supplied).

⁷³ Doc. no. 174 (Avocent’s motion to strike), Ex. 1 (Vaughn supplemental report) ¶¶ 9 and 10, at 4.

⁷⁴ *Id.*, ¶ 11 at 4 (boldface emphasis in original).

Vaughn's analysis: *i.e.*, that the amplifier must reproduce "the frequency components of the video signal" in such a manner that the voltage level of the signal at the computer, the input end of the transmission path, and the voltage level of the signal at the monitor on the other end, do not differ by even one-half of one percent. Avocent contends that this opinion raises an additional, previously undisclosed limitation on the claim term "amplifier," purportedly supported by the patent specification and the testimony of Joseph McAlexander at the claim construction hearing. In other words, it is an untimely attempt at claim construction.

2. *Conclusion*

This court agrees that the following portions of Section II of Dr. Vaughn's rebuttal report are due to be stricken: the last sentence of paragraph 5, and paragraphs 6 and 7.⁷⁵ As will be discussed in greater detail in Part Six, Section B of

⁷⁵ The last sentence of paragraph 5 states: "If the monitor is some distance away from the source of the video signal (computer) each of the frequency components must arrive at the monitor with substantially the same amplitude they had when they left the computer or else the image on the monitor will not be correct." Paragraphs 6 and 7 read as follows:

6. The accuracy with which the video signal at the monitor must match the video signal at the source computer has been clearly specified by the specification of the '919 Patent. In the specification of the '919 Patent, the phrase, "The conditioning of the video signals includes reducing the analog video signals from their nominal amplitude swing of from 0-700 millivolts . . ." ('919 Patent, 7:6-8), shows that the source produces **700 millivolt** peak-to-peak video signals and that the monitor requires the same. Another reference in the same document confirms the required signal level, "Where the output is coupled to a conventional analog VGA computer monitor 18, the monitor represents a load 19, which may be a resistor of about 75 ohms, with the output signal from region 14 across this 75 ohm load being about 700 millivolts." ('919 Patent, 3:11-15) This same color video signal level has been in use

this opinion *infra*, ClearCube has continually shifted its claim construction contentions throughout the course of litigation, foisting last-minute surprises on Avocent's counsel and this court. Now, after claim construction and on the eve of trial, ClearCube proffers yet another, previously undisclosed claim limitation. Avocent's motion to strike these portions of Dr. Vaughn's rebuttal report will be granted. *Cf. Atmel Corporation v. Information Storage Devices, Inc.*, 1998 WL 775115, at *2-3 (N.D. Cal. 1998) (refusing to allow amendment to claim charts after claim construction). Avocent's motion to strike the other portions of Section II,

for many years in computers with analog video monitors. An example is the SUN-3 computer system with the Sony P2 GDM-1604 color monitor, whose End-of-Support Life was April 1996. This system also used video signal frequencies much higher than those of conventional color television. The resolution was 1152 by 900 pixels and the pixel frequency was 92.94 MHz. In addition it had the analog color video signals on separate conductors from the synchronization signals. (Sun 3 April 1996).

7. The accuracy with which the video signal at the monitor must match the video signal at the source computer has been further quantified by the testimony of Mr. McAlexander. In his testimony at the Markman hearing, he describes "True Color" video in which 8 bits of information represent the intensity level of each of the three colors. He said, "So when we look back on Figure 1 of the display, the distance between zero and 700 millivolts is — has — is, in fact, 256 separate increments. And each one of those increments is a different voltage level. And each voltage level defines a different intensity." Thus, if the analog voltage for any pixel at the monitor is different from that same voltage level at the source computer by more than one part in 256 (1/256 or less than one-half of one percent), the intensity of the color will not be the same. Mr. McAlexander has stated that the threshold for measuring a difference in the intensity of a color is one part in 256 of 700 millivolts. Thus, if the voltage level at the monitor and at the source computer differ by 2.7 millivolts (about **0.5%**) for any pixel in the display, the color intensity will be wrong.

Doc. no. 174 (Avocent's motion to strike), Ex. 1 (Vaughn's supplemental report), at 3-4 (boldface emphasis in original).

however, will be denied.

C. Section III of Vaughn’s Supplemental Report — the “adapter” non-infringement opinion

Claim 1 of the ‘919 patent recites an “adapter . . . further configured to provide a ground reference potential *for said transmitter* at said adapter.”⁷⁶ This court has construed the emphasized phrase, “for said transmitter,” as meaning “from the signals received from the transmitter.” In whole cloth, therefore, claim 1 of the ‘919 patent recites an “adapter . . . further configured to provide a ground reference potential [*from the signals received from the transmitter*] at said adapter.”⁷⁷

McAlexander opined in his second supplemental report that a structure called a “C-Port,” located on the receiver-side of ClearCube’s accused products, is configured to provide a ground reference potential “from the signals received from the transmitter.”⁷⁸ Dr. Vaughn disagreed, and grounded his contrary opinion on two assertions: (1) a “common-mode filter” located on the front end of ClearCube’s transmission system did not allow recovery of the ground reference potential at the accused C-Port; and (2) there was no need to recover the ground reference potential at the C-Port, because signals in the ClearCube system were sent in “balanced”

⁷⁶ Doc. no. 187 (ClearCube’s brief in opposition), Ex. D (‘919 patent), col. 18, lines 32, 37-39.

⁷⁷ See doc. no. 134 (claim construction order) at 2; doc. no. 133 (claim construction memorandum), at 41-46.

⁷⁸ See doc. no. 174 (Avocent’s motion to strike), Ex. 2 (Second Supplemental Report), at 7-8.

format.⁷⁹

Dr. Vaughn was subsequently deposed on May 1, 2006, at which time he was questioned about his analysis of Avocent's claimed "adapter." In pertinent part, Dr. Vaughn was asked about the concept of transmitting video signals from a transmitter to the adapter, and whether there was a "path" through which the signals could "return" to the transmitter.⁸⁰ Dr. Vaughn opined that, indeed, the laws of physics require a "return path" for the video signals, and asserted that the "return path" in Avocent's system was through the "twisted pair" of conductors connecting the transmitter and adapter.⁸¹ Dr. Vaughn also suggested that the "return path" requirement was implicit in this court's construction of the phrase "for said transmitter."⁸²

Avocent now moves to strike Section III of Dr. Vaughn's supplemental *report*

⁷⁹ See *id.*, Ex. 1 (Vaughn supplemental report), at 5-6.

⁸⁰ See doc. no. 174 (Avocent's motion to strike), Ex. 3 (Vaughn deposition), at 182-88. Claim 1 of the '919 patent, on its face, says nothing about a "return path" for video signals. The court's construction of "adapter" also is silent on the issue.

⁸¹ See *id.*

⁸² Dr. Vaughn stated:

The purpose of the reference ground conductor is to be a return path for signals. So, if you eliminate the adapter — the reference ground conductor, there still has to be a return path. There must be a return path. So, in the claim language, there still has to be a return path. So the Court is saying that the return path is generated from the signals that are received from the transmitter instead of from a separate ground conductor all by itself.

Id. at 186.

on the basis of Dr. Vaughn's *deposition testimony* regarding the "return path" requirement. According to Avocent, Dr. Vaughn asserts new claim construction arguments relating to the "adapter" component that were not raised during the claim construction process.

In Section III of his report, Dr. Vaughn does state that there is a "return path" from "the adapter (or receiver)" to the transmitter, but that is merely a passing reference in the text; and this court cannot conclude from the text alone that Dr. Vaughn is engaging in claim construction, as Avocent contends.⁸³ Dr. Vaughn was asked to elaborate on his opinions at deposition, however, and he explained that (i) claim 1 of the '919 patent requires a "return path" from the adapter to the transmitter, (ii) the "return path" is "generated from the signals that are received from the transmitter," and (iii) the "return path" in Avocent's system runs through the "twisted pair" of conductors connecting the transmitter and adapter.

1. *Conclusion*

To the extent Avocent seeks to preclude this testimony at trial, that is the proper subject of a motion *in limine*. Indeed, Avocent has filed such a motion: doc.

⁸³ In paragraph 13, Dr. Vaughn notes that video signals generally have alternating current ("AC") components as well as direct current ("DC") components. *See* doc. no. 200 (ClearCube's reply brief), Ex. L (Vaughn supplemental report), at 5. Dr. Vaughn then states: "when constructing a ground reference for video signals at the adapter (or receiver), it is not necessary that there be a DC path back to the transmitter, but it is necessary that there be an AC path back to the transmitter." *Id.*

no. 218 seeks to preclude Dr. Vaughn from testifying that the claimed “adapter” requires “twisted pair conductors to serve as a return current path from the receiver to the transmitter.”⁸⁴ However, Avocent’s motion to strike Section III of Dr. Vaughn’s supplemental report will be denied.

D. Sections IV and V of Vaughn’s Supplemental Report — “obviousness” and the validity of the patents-in-suit

Section IV of Dr. Vaughn’s supplemental report sets forth his opinions on the validity of the ‘919 patent, and Section V does the same for the ‘997 patent. Dr. Vaughn disclosed his original validity report on August 2, 2004,⁸⁵ and he then opined that it would have been obvious at the time of the subject inventions to a person of ordinary skill in the art “of video transmission” — *i.e.*, someone holding “a Bachelor of Science degree in Electrical Engineering and at least four years of experience in the field”⁸⁶ — to combine the information contained in each binary set of prior art references identified by him.⁸⁷ Dr. Vaughn further described, on a claim-by-claim basis, how the identified prior art combinations contained all of the elements found

⁸⁴ Doc. no. 218 (Avocent Huntsville’s Motion *In Limine* to Preclude Evidence And/Or Arguments Based on Improper Claim Constructions for the Terms of the ‘919 and ‘997 Patents), at 4.

⁸⁵ See doc. no. 150 (ClearCube’s brief in opposition to Avocent’s motion for partial summary judgment that the patents-in-suit are not invalid), Ex. C (Aug. 2, 2004 Expert Report of Gregg L. Vaughn, Ph.D.)

⁸⁶ *Id.* § II, at 2.

⁸⁷ See *id.*, §§ III and IV.

in the asserted claims of the patents-in-suit.⁸⁸

Robert Asprey and Joseph McAlexander followed with their rebuttal reports on September 20, 2004, and each challenged Dr. Vaughn's analysis on the basis that he had failed to articulate a motivation, suggestion, or teaching for combining the selected prior art references to lead to the claimed inventions. Both noted that, while the patents-in-suit addressed the problem of transmitting *computer*-generated video signals over extended distances, Vaughn repeatedly cited prior art references directed to the transmission of other types of signals, such as *television* signals. Asprey's report provided a particularly detailed discussion of this subject matter.⁸⁹

Additionally, for each binary set of prior art references identified by Dr. Vaughn, McAlexander's report attempted to demonstrate that the references taught entirely "different solutions for transmitting video signals" than did the patents-in-suit

⁸⁸ *See id.*

⁸⁹ Asprey explained that *television* signals operated at a single horizontal and vertical synchronization rate, making it relatively easy with the use of existing technology to determine ground from the video information. In contrast, *computer* video signals have the potential for multiple synchronization rates, making it more difficult to accomplish the same task. *See, e.g.*, doc. no. 187 (ClearCube's brief in opposition), Ex. I (Asprey's invalidity report), at 4, 7-8, 10-11, 13-14, 19-20. Asprey's ultimate conclusion was that, due to critical differences between computer and television signals, no one skilled in the art would have looked to prior art references in the field of television signal transmission to solve the particular problems addressed in the '919 and '997 patents. Even so, according to Asprey, that is precisely what Dr. Vaughn had done in his invalidity analysis. *See, e.g., id.* at 17.

Like Asprey, McAlexander also cited the differences between computer and television signals as a reason to conclude that there was no motivation, suggestion, or teaching that would have led a person of ordinary skill in the art to look to the prior art references identified by Dr. Vaughn. *See* doc. no. 246 (Avocent's response to the court's June 23, 2006 order), Attachment A (McAlexander's original invalidity report), at 27, 30, 33, 37, 43, and 46.

— a *further* reason to conclude that there was no motivation, suggestion, or teaching to combine elements from the selected prior art references.⁹⁰

Following the death of Asprey, and in accordance with the Revised Scheduling Order entered on March 31, 2006, McAlexander incorporated eight passages from Asprey's report into his second supplemental report.⁹¹ Those passages all involved Asprey's discussion of the differences between computer-generated video signals and television signals, in the context of challenging the motivation-suggestion-teaching element of Dr. Vaughn's invalidity analysis.

Dr. Vaughn served his rebuttal report in response to Asprey's opinions, as thus incorporated by McAlexander. Avocent now asserts two independent arguments to strike Sections IV and V of Dr. Vaughn's latest report: (1) the scope of Dr. Vaughn's rebuttal exceeded that of Asprey's opinions, as incorporated by McAlexander; and (2) Dr. Vaughn cited five new "prior art" references in his rebuttal report.

1. *Scope of Dr. Vaughn's rebuttal*

Rule 26(a)(2)(C) of the Federal Rules of Civil Procedure provides that "rebuttal disclosures are those that relate to evidence that is 'intended solely to contradict or rebut evidence on the same subject matter identified by another party' in its expert

⁹⁰ See doc. no. 246, Attachment A (McAlexander's original invalidity report), at 27-29, 31-33, 34-36, 38-41, 43-46, 47-48.

⁹¹ See doc. no. 174 (Avocent's motion to strike), Ex. 2 (McAlexander's Second Supplemental Report), at 8.

disclosures.” *Aircraft Gear Corporation v. Marsh*, 2004 WL 1899982, at *5 (N.D. Ill. Aug. 12, 2004); *see also Gilbane Building Company v. Downers Grove Community High School District No. 99*, 2005 WL 838679, at *11 (N.D. Ill. April 5, 2005) (same).

a. Conclusion

The court finds that the following paragraphs in Sections IV and V of Dr. Vaughn’s supplemental report rebut Asprey’s contentions regarding the differences between computer video signals and television signals: ¶¶ 20, 22, and 41. The following paragraphs also rebut Asprey’s contentions, but only to the extent that each incorporates, by reference, paragraph 22: ¶¶ 30, 33, 37, 43, and 48. Avocent’s motion to strike these portions of Dr. Vaughn’s supplemental expert report is denied.

However, Avocent’s motion to strike all other opinions set forth in Sections IV and V of Dr. Vaughn’s supplemental report will be granted, because those portions extend beyond the limited subject matter incorporated into McAlexander’s invalidity analysis.

2. New “prior art”

Avocent also moves to strike Sections IV and V of Dr. Vaughn’s supplemental report on the basis that the report includes five new “prior art” references that were not previously disclosed. These references are: the “VGA to RGB Converter” article

(cited in paragraph 22 of the Vaughn supplemental report); the “Sun-3 ” article (§ 22); “Fast Ethernet Alliance” (§ 23); “Application Notes” (§ 25); and the “EDN Magazine” articles (§ 25).

Paragraphs 23 and 25 of the Dr. Vaughn’s supplemental report already have been stricken. Accordingly, the references cited in those paragraphs — the Fast Ethernet Alliance, Application Notes, and the EDN Magazine articles — will not be discussed here. On the other hand, the “VGA to RGB Converter” article and the “Sun-3” article are cited in paragraph 22 of the Vaughn supplemental report. So far, that paragraph has survived Avocent’s motion to strike.

Dr. Vaughn cites these articles to illustrate a purported flaw in Asprey’s opinion that there are important differences between computer and television video signals. This was in direct rebuttal to Asprey’s opinions, as incorporated by McAlexander. Avocent attempts to characterize these references as previously undisclosed “prior art” references to the patents-in-suit, but that argument is misleading. Dr. Vaughn does not attempt to combine elements from the “VGA to RGB Coverter” and “Sun-3” articles with elements from other prior art references to show the “obviousness” of the patents-in-suit. The articles merely are cited to show what a person of ordinary skill in the relevant technology allegedly would have known in 1996.

Avocent also advances the argument that it did not have the opportunity to reply to Dr. Vaughn's invalidity analysis under the court's latest Revised Scheduling Order. Therefore, Avocent contends that the previously undisclosed references should be stricken. This court disagrees. After claim construction, the parties filed a Joint Status Report, wherein Avocent *agreed* that its "supplemental" report on invalidity would be disclosed first, followed by ClearCube's rebuttal. Avocent cannot complain about the sequence of expert disclosures under these circumstances.